Organic agriculture is increasing in Mexico, involving 350,000 ha in 2009. Although vermicompost applications are common, not yet is important in peanut crops. We have tested different dosages of vermicompost applied to peanuts, both growing in pots inside a greenhouse, and at open fields. In 2007 and 2008 the application of 1 kg of vermicompost applied to each pot that contained 10 kg of sandy clay soil, not induced higher peanut pod yields than the control. In spring-summer season, 2010, two different soils textures mixed with 50% of vermicompost (v/v) were used for planting a peanut plant in each pot of 10 kg of soil. Cultivar Rio Balsas was grewed. Main results indicate that: Biological yield was the highest (60.8 g) in the clay sandy soil removed before planting than clay sandy soil mixed with 50% of vermicompost (59.8 g). Sandy soil without vermicompost (control) produced only an average of 35 g. In dry pod weigh, the values were 21.0, 24.7 and 20.8 g respectively. This indicates that vermicompost at a dosage of 50% v/v not induced more peanuts yields. On field experiment, vermicompost applied at a dosage of 65 g / two plants, not induced statistical differences between treatments in pod number and pod weigh: In the first sample, 34 and 62 pods were harvested from vermicompost application and control respectively. In a second sample, a similar trend was observed: vermicompost application induced 46 and control 65 pods. In the last sample, the third, peanut plant with vermicompost produced 71 pods, meanwhile control produced 108 pods. This trend was similar on peanuts pod dry weight. Maybe the low dosage of 65 g / hill (two plants), (2031 kg of vermicompost ha⁻¹) applied to 62,500 plants ha⁻¹, was not enough for improved peanut pod yields.